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COUNTRY ANALYSIS BRIEFS

Algeria

Last Updated: February 2006

Background

Algeria's hydrocarbon sector accounts for almost 30 percent of the country's gross domestic product (GDP) and over 97 percent of export revenues.

Following years of civil war and political unrest, Algeria now is experiencing a significant economic upturn, in large part aided by strong oil and natural gas export revenues. Real gross domestic product (GDP) growth is expected to reach 6.4 percent in 2006, following estimated growth of 5.2 percent in 2005. The sharp increase in oil export revenues that Algeria has enjoyed during the past few years has caused the country's foreign reserves to rebound sharply. In late 2005, foreign reserves totaled over $56 billion, compared to $43 billion and $32 billion at the end of 2004 and 2003, respectively.

Regardless of fluctuating oil revenues, structural reforms and fiscal discipline appear to remain important parts of the government's economic program, as urged by the International Monetary Fund (IMF). President Abdelaziz Bouteflika, elected President in 1999 and re-elected in 2004, has attempted to implement plans for national reconciliation and economic reform. On July 13, 1999, President Bouteflika offered amnesty to rebel groups, and a national referendum subsequently approved the offer. In the 2004 Presidential election held in Algeria, international observers verified that Bouteflika's re-election, in which he won a landslide victory, was largely free and fair.

In late 2001, Algeria and the European Union (EU) reached an Association Agreement after years of negotiations, and the European Parliament ratified the deal in October 2002. Under the accord, Algeria will cut tariffs on EU agricultural and industrial products over the next 10 years, while the EU will eliminate duties and quotas on many Algerian agricultural products. In December 2002, Algeria signed a cooperation pact with the European Free Trade Association (EFTA), providing for expanded and liberalized trade with EFTA members (Iceland, Liechtenstein, Norway, and Switzerland). In addition, Algeria is actively pursuing membership in the World Trade Organization, with the IMF Article IV assessment noting that the country had made good progress in this regard.

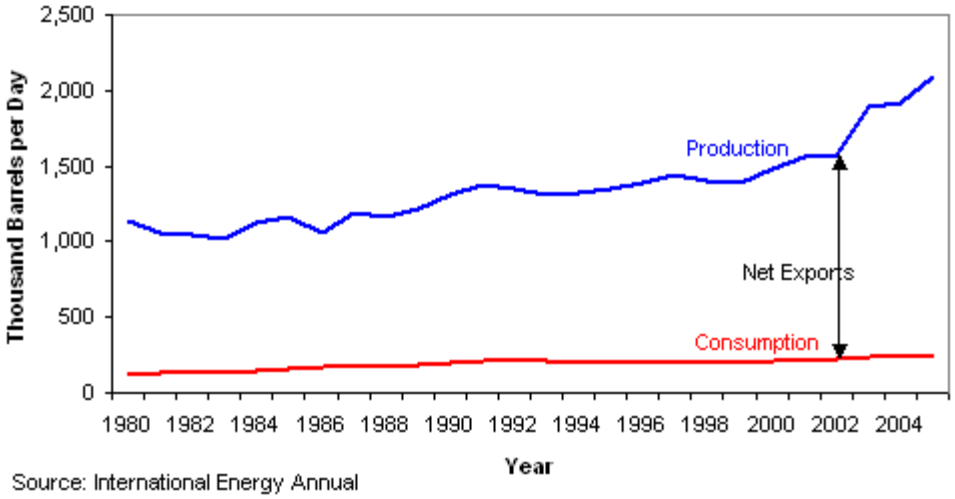
Oil

Algerian oil

production continues to increase, with a goal of reaching 2.0 million barrels per day (bbl/d) by 2010.

According to the *Oil and Gas Journal* (*OGJ*), Algeria contained an estimated 11.4 billion barrels of proven oil reserves as of January 2006. With recent oil discoveries and plans for more exploration drilling, proven oil reserve estimates could increase in coming years. Algeria should also see an increase in crude oil exports over the next few years, due to the substitution of natural gas for oil in domestic energy consumption.

Algeria's Oil Production and Consumption, 1980-2005



Source: International Energy Annual

Analysts consider Algeria underexplored, even though the country has produced oil since 1956, and Algeria's National Council of Energy believes that the country still contains vast hydrocarbon potential. Over the last few years, there have been significant new oil and gas discoveries, largely by foreign companies: Algeria's oil sector, unlike the majority of producers in the Organization of Petroleum Exporting Countries (OPEC), has been open to foreign investors for more than a decade. Algeria hopes to increase its crude oil production capacity significantly over the next few years by attracting more foreign investment. Energy Minister Chekib Khelil has stated that his goal is to double the number of companies operating in Algeria, restructure the domestic oil industry, and establish new regulatory bodies independent of the Energy and Mining Ministry.

Sector Reforms

Sonatrach, owned by the Algerian government, has dominated Algeria's oil sector. Though, with the passage of the new hydrocarbons bill, the company no longer has a domestic monopoly on oil production, refining, and transportation. In late 2001, President Boutaflika introduced the hydrocarbons reform bill. In March 2005, the Algerian parliament adopted the bill as law after having been rejected and then re-introduced with various amendments. The bill encourages private investment throughout the hydrocarbon industry and allows foreign operators to act independently of Sonatrach. However, Sonatrach will have a 30 percent participation option on each newly discovered project. The new bill also provided for the creation of two new regulatory agencies, Alnaft and HRA. Alnaft will promote new exploration, sign upstream contracts, approve development plans, and collect royalties and taxes. HRA will manage construction and operating permits for pipelines and downstream projects. Passage of the hydrocarbons reform bill is seen as an important, concrete step towards Algeria's goal of increasing crude oil production.

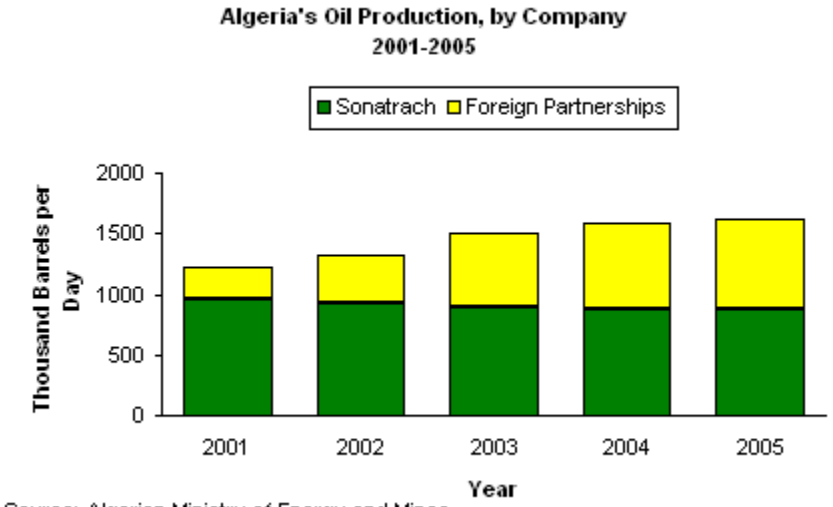
Exploration and Production

Algeria's average crude oil production during 2005 was 1.35 million barrels per day (bbl/d). Together with 445,000 bbl/d of lease condensate and 290,000 bbl/d of natural gas plant liquids, Algeria averaged about 2.08 million bbl/d of total oil production during 2005, up steadily from 1.93 million bbl/d in 2004 and 1.86 million bbl/d in 2003. Algeria's crude oil production is running well above its OPEC quota of 894,000 bbl/d (as of January 1, 2006), though the OPEC quota only applies to crude oil production. In coming years, it is likely that Algeria's oil production capacity will rise as the country plans to increase investments in exploration and development efforts. Algeria's production goal was 1.5 million bbl/d of crude oil by 2005 and 2.0 million bbl/d by 2010.

With domestic oil consumption of 242,000 bbl/d in 2005, Algeria had estimated net oil exports (including all liquids) of 1.84 million bbl/d. Approximately 90 percent of Algeria's crude oil exports go to Western Europe, with Italy as the main recipient followed by Germany and France. Algeria's Saharan Blend oil, 45° API with negligible sulfur c ontent, is among the highest quality in the world. European countries have relied upon Algerian oil to help meet increasingly stringent EU regulations on sulfur content of gasoline and diesel fuel.

Sonatrach operates the largest oil field in Algeria, Hassi Messaoud. Located in the center of the country, Hassi Messaoud produced about 440,000 bbl/d of 46° API crude in 2005, down from 550,000 bbl/d in the 1970s, but up from 300,000 bbl/d in 1989. The Hassi Messaoud area contains an estimated 6.4 billion barrels, just under 60 percent of the country's proven oil reserves, and Sonatrach hopes to increase production at the field to 700,000-750,000 bbl/d within 5-7 years. Sonatrach also operates the Hassi R'Mel field (north of Hassi Messaoud, south of Algiers), which produces around 180,000 bbl/d of 46.1° API crude. Other major fields operated by Sonatrach include Tin Fouye Tabankort Ordo, Zarzaitine, Haoud Berkaoui/Ben Kahla, and Ait Kheir. In February 2004, Sonatrach announced that it had discovered a new oilfield near Rhourde El Baguel, east of Hassi Messaoud, with possible oil reserves of 360 million barrels.

Foreign oil operators have steadily increased their share of Algeria's oil production. The largest foreign oil producer is Anadarko, with output of 450,000 bbl/d. The company operates the Hassi Berkine South (226,000 bb/d) and Ourhound (224,000 bbl/d) fields in eastern Algeria. Anadarko is developing seven new oil and gas fields in Block 208 of the Berkine Basin; first production from the fields (EKT, El Merk, El Merk N, El Merk E, El Merk C, El Kheit, and El Tessekha) is possible by 2008, with output eventually reaching 150,000-200,000 bbl/d of crude oil and condensate. Exploration success rates in the Berkine Basin have been high, and several billion barrels of oil may lie within 15 miles or so of the area. The Rhourde El Baguel field is Algeria's second-largest, containing about three billion barrels of proven oil reserves, but the field has produced less than 450 million barrels since 1963. In 2005, the field's output was 25,000 bbl/d, down from the 2004 output of 27,000 bbl/d.



Source: Algerian Ministry of Energy and Mines

Besides Anadarko, there are many foreign companies active in the country. BHP-Billiton operates the Rhourde Oulad Djemma (ROD) project in eastern Algeria, a series of six satellite fields that have produced close to capacity (80,000 bbl/d) since July 2005. Amerada Hess has operated the Gassi el Agreb/Zotti field since 2000, with annual production of 23,000 bbl/d. In July 2000, several companies (Burlington Resources, Talisman, and Sonatrach) announced that they would develop the Menzel Ledjmat North (MLN) field in Block 405a. First oil from the field came online in 2003, with initial output of 15,000 bbl/d. Additional field enhancement projects being carried out on the fields should increase output to around 35,000-40,000 bbl/d. Other major foreign producers in Algeria include Cepsa (Ourhoud, Rhourde El Krouf), and Agip (Bir Rebaa).

Although Algeria has experienced a significant influx of foreign investment in recent years, it still has many oil fields in need of additional foreign capital and enhanced oil recovery (EOR)

investment. Halliburton has an eight-year contract to provide EOR services and boost production at Hassi Messaoud. In February 1996, Arco (now owned by BP) signed a $1.3 billion partnership with Sonatrach to increase production at Rhourde El Baguel. In October 2002, Sinopec won a $525 million contract to help increase the crude oil recovery rate at Zarzataine, near Hassi Messaoud.

During 2005, Algeria held its sixth licensing round for foreign development of oil and natural gas reserves. It was the last round held before Algeria implemented the new hydrocarbon bill. A total of 54 companies showed interest in the ten blocks being offered. Companies that won exploration rights included BP (winning three concessions), BHP-Billiton (winning two concessions), Shell (winning two concessions), and the UAE-US joint venture Gulf Keystone (winning two concessions). One concession package in the Berkine basin was not awarded. BP has already made plans to invest $300 million over the next three years in developing its new concessions.

Pipelines and Export Terminals

Algeria uses seven coastal terminals to export crude oil, refined products, liquefied petroleum gas (LPG) and natural gas liquids (NGL). There are facilities located at Arzew, Skikda, Algiers, Annaba, Oran, Bejaia, and La Skhirra in Tunisia. Arzew handles about 40 percent of Algeria's total hydrocarbon exports, including all of its NGL, LPG, and oil condensate exports. Algeria has ambitious plans for the expansion of the Arzew port area, including the construction of a petrochemicals complex, a condensate refinery, and a desalination plant.

Algeria's oil pipeline network facilitates the transfer of oil from interior production fields to these export terminals. Sonatrach operates over 2,400 miles of crude oil pipelines in the country. The most important pipelines carry crude oil from the Hassi Messaoud field to export terminals (see chart). Sonatrach also operates oil condensate and LPG pipeline networks that link Hassi R'mel and other fields to Arzew. Currently, Sonatrach is expanding the Hassi Messaoud-Azrew pipeline, the longest in the country. The project will build a second, parallel line that will more than double the capacity of the existing line.

Algeria's Major Domestic Crude Oil Pipelines

Origin	Destination	Length (miles)	Capacity (bbl/d)
Hassi Messaoud	Arzew	500	470,000
Hassi Messaoud	Bejaia	410	370,000
Hassi Messaoud	Skikda	400	520,000
In Amenas	Hassi Messaoud	390	390,000
Hassi Berkine	Hassi Messaoud	180	110,000
El Borma	Mesdar	170	55,000
B. Mansour	Algiers	80	77,000
Mesdar	Hassi Messaoud	70	26,000

Source: *Algerian Ministry of Energy and Mining*

Algeria operates one crude oil pipeline connection to a foreign country. The 160-mile, 304,000-bbl/d OT1 pipeline connects the In Amenas oil field in the southeastern part of the country to the export terminal in La Skhira, Tunisia.

Downstream

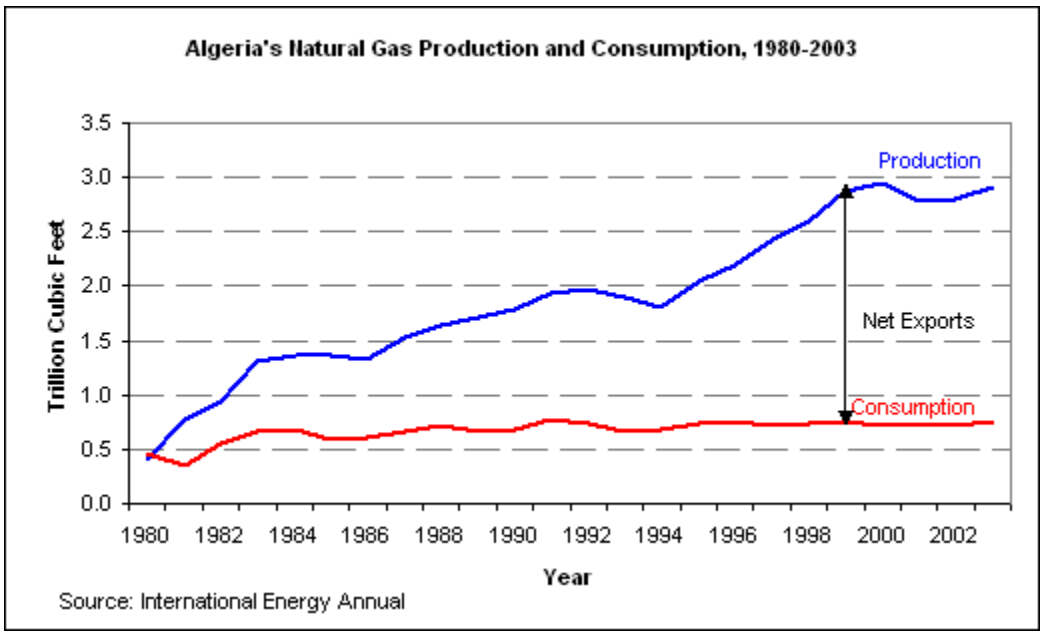
Naftec, a subsidiary of Sonatrach, operates Algeria's refineries. The country has four refineries, with combined capacity of 450,000 bbl/d, supplying most of the country's refined oil product needs. The Skikda refinery (300,000 bbl/d) provides the bulk of Algeria's refined products production. The 30,000-bbl/d Hassi Messaoud plant supplies products to southern Algeria, while the 60,000-bbl/d Algiers refinery processes crude from Hassi Messaoud for consumption in the capital. Finally, the coastal 60,000-bbl/d Arzew refinery produces products for domestic consumption and export. In January 2001, Algeria issued a tender for an integrated production and refining project in the central Adrar region, near the Sbaa basin, and in May 2003 contracted with China's CNOOC to build it. Algeria also wants to upgrade and restart the currently-idle In Amenas refinery. In addition to its domestic production of oil products, Algeria imports around 20,000-35,000 bbl/d of sour crude and specialty products for specific industrial applications.

Although Algeria has a substantial petrochemical and fertilizer industry, low capacity utilization rates mean continued reliance on imports. Algeria's largest petrochemical plants include Annaba (a 550,000-ton-per-year (t/y) ammonium nitrate facility, and nitric acid complex), Arzew (365,000-t/y ammonia, 146,000-t/y urea, and 182,500-t/y ammonium nitrate), and Skikda (130,000-t/y high-density polyethylene unit, 120,000-t/y ethylene cracker, and a substantial aromatics complex). Sonatrach has undertaken a number of petrochemical and fertilizer expansion projects, including a new methyl tertiary butyl ether (MTBE) complex and a polyester resin complex.

Natural Gas

Algeria is the largest producer of natural gas among OPEC members.

According to the *Oil and Gas Journal* (*OGJ*), Algeria had 160.5 trillion cubic feet (Tcf) of proven natural gas reserves (the eighth-largest in the world) as of January 2006. Algeria's recoverable natural gas potential, however, may be as high as 282 Tcf. Most of the country's natural gas reserves are associated (they occur alongside crude oil reserves). Algeria is a founding member of the Gas Exporting Countries' Forum, a loose group of 15 gas-producing countries formed in Tehran in May 2000.



Sector Organization

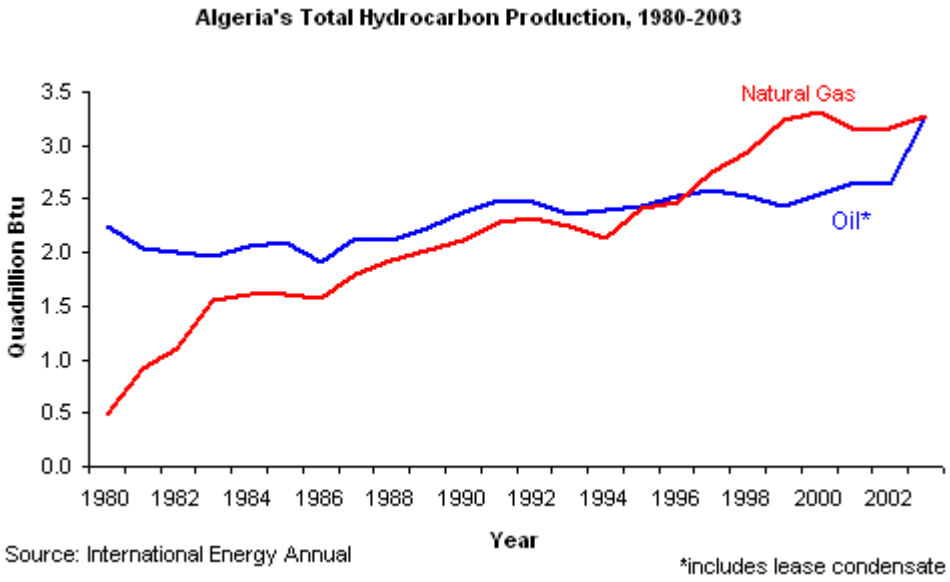
Sonatrach dominates natural gas production and wholesale distribution in Algeria, while another state-owned company, Sonelgaz, controls retail distribution. Algeria has increasingly allowed greater foreign investment in the sector, and foreign gas producers have entered into numerous partnership agreements with Sonatrach. There are also plans to allow foreign participation in the retail natural gas sector. In order to attract foreign investment, the government has pushed efforts to liberalize domestic natural gas prices; unfortunately, the latest effort at price liberalization in 2005 coincided with record freezing temperatures in Algeria, and there were protests and riots against the liberalization plans in several cities.

Exploration and Production

Commercial production of natural gas in Algeria began in 1961. The country produced 2.9 Tcf of natural gas in 2003, the fifth-largest in the world and the largest among OPEC member countries. In 1997, Algeria's natural gas production exceeded the country's crude oil production for the first time. Algeria consumed 0.75 Tcf of natural gas in 2003, some 26 percent of its production. The Algerian government has encouraged the domestic use of natural gas, which represented over 64 percent of the country's total energy consumption in 2003. The remaining natural gas is exported, with the majority going to Europe and the United States.

Algeria's largest gas field is the super-giant Hassi R'Mel, discovered in 1956 and holding proven reserves of about 85 Tcf. Hassi R'Mel accounts for about a quarter of Algeria's total dry gas production. The remainder of Algeria's gas reserves center around associated and non-associated fields in the south and southeast regions of the country. In southeastern Algeria, the Rhourde Nouss region holds 13 Tcf of known reserves. Also in southeastern Algeria, near the

Libyan border, the In Amenas region contains the Tin Fouye Tabankort (TFT; 5.1 Tcf), Alrar (4.7 Tcf), Ouan Dimeta (1.8 Tcf), and Oued Noumer fields. The In Salah region in southern Algeria holds smaller, less-developed reserves (5-10 Tcf). In October 2003, Sonatrach announced a major natural gas discovery in the Reggane Basin in southwestern Algeria.



Development of the In Salah region is crucial in Algeria's plan to increase its natural gas production. The In Salah Gas consortium, a partnership of Statoil, BP, and Sonatrach, was the first major natural gas partnership between Sonatrach and a foreign operator. The consortium has development rights for seven of the twelve existing fields in the In Salah region. In Salah Gas will appraise existing wells and explore for new gas reserves in the region. The fields controlled by the consortium contain proven reserves of 6 Tcf, with potentially 10 Tcf in total recoverable reserves. Initial production at the In Salah fields began in July 2004, and once fully on-stream, they should produce some 880 million cubic feet per day (Mmcf/d) of natural gas. Even prior to initial startup, the consortium had already signed gas supply contracts with European customers. In May 1997, In Salah Gas sealed its first natural gas sales deal with Italian electricity generator Enel. The deal enables In Salah Gas to take over an existing contract to supply Enel with 390 Mmcf/d of gas. Other than Enel, the venture is marketing gas to potential clients in Europe, Turkey and North Africa.

Besides In Salah, other important Algerian natural gas projects have centered around three blocks in the Illizi province of southeast Algeria, near the Libyan border: Ohanet, In Amenas, and Gassi Touil. Ohanet, led by a consortium of BHP-Billiton and Sonatrach, is in Illizi on the northern edge of the Sahara desert. Production of natural gas, NGL, and liquified petroleum gas (LPG) at Ohanet began in October 2003. The Ohanet project includes a natural gas processing plant with capacity for 30,000 bbl/d of condensate, 26,000 bbl/d of LPG, and around 700 Mmcf/d of natural gas.

In November 2002, Sonatrach and BP signed a deal to develop natural gas production in the In Amenas region. The $1.8 billion project is due to come onstream in 2006 and should produce around 900 Mmcf/d of "wet" (i.e., associated with oil) natural gas, plus 50,000 bbl/d of condensate and LPG. The project includes construction of three pipelines to carry the hydrocarbons to the Sonatrach distribution system at Ohanet. In 2003, Statoil purchased 50 percent of BP's stake in the project.

In November 2004, Algeria awarded a tender to Repsol-YPF and Gas Natural for a natural gas project at Gassi Touil, a field containing 9 Tcf of proven reserves. The $2 billion integrated project will consist of 52 development wells, a 780-Mmcf/d gas processing facility, a 630-Mmcf/d natural gas pipeline, and a 500-Mmcf/d gas liquefaction terminal at Arzew. Initial production at Gassi Touil should begin in 2009, with the bulk of its gas destined for Spain and other European markets.

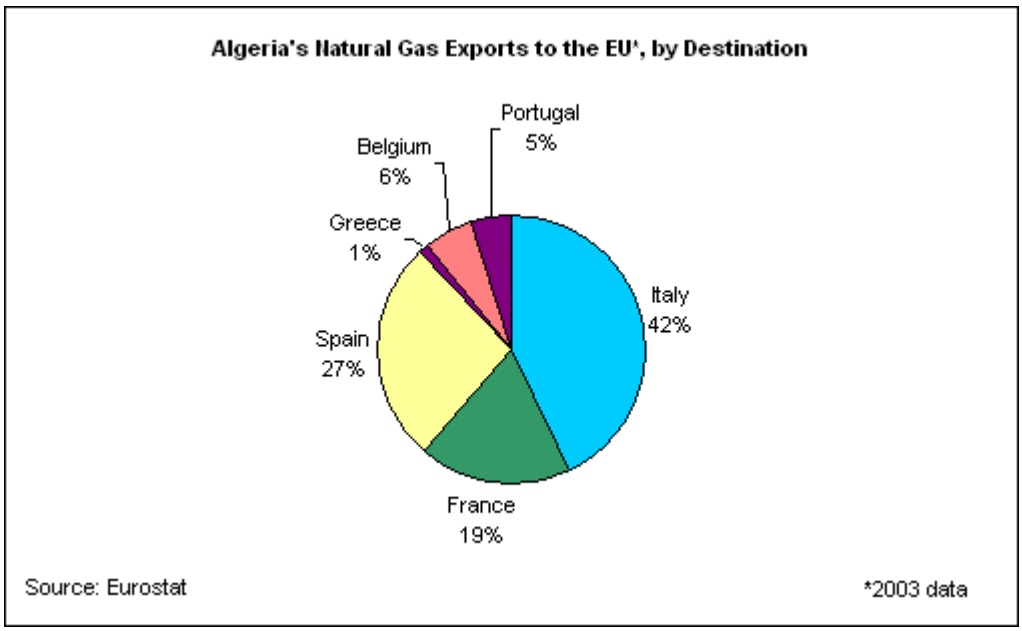
Pipelines

Domestic System

Algeria's domestic pipeline system centers around the Hassi R'Mel gas field. The largest pipeline systems connect Hassi R'Mel to liquefied natural gas (LNG) export terminals along the Mediterranean Sea. A 315-mile, 4.38-billion-cubic-feet-per-day (Bcf/d) system connects Hassi R'Mel to Arzew, while a 360-mile, 1.98-Bcf/d system connects Hassi R'Mel to Skikda. A smaller pipeline (270 miles, 690 Mmcf/d) also runs between Hassi R'Mel and Isser, near Algiers. Hassi R'Mel is the center of Algeria's entire natural gas transport network, so pipelines connect to it from the country's major gas-producing regions. A 600-mile, 3.29-Bcf/d pipeline links the In Amenas region; a 330-mile, 774-Mmcf/d pipeline connects the In Salah region; and a 90-mile, 610-Mmcf/d system runs from the gas fields surrounding Gassi Touil.

Export System

There are two natural gas pipeline connections between Algeria and Europe. The 670-mile, 2.32-Bcf/d Trans-Mediterranean (Transmed, also called Enrico Mattei) line runs from Hassi R'Mel, via Tunisia and Sicily, to mainland Italy. Completed in 1983 and doubled in 1994, there are plans to construct an additional compressor station along the Transmed that could increase capacity to 3.48-Bcf/d. An international consortium, led by Spain's Enagas, Morocco's SNPP, and Sonatrach, operates the 1,000-mile, 820-Mmcf/d Maghreb-Europe Gas (MEG, also called Pedro Duran Farell). MEG, completed in 1996, connects Hassi R'mel with Cordoba, Spain via Morocco, where it ties into the Spanish and Portuguese gas transmission networks. In August 2001, Sonatrach awarded ABB a $93 million contract to build a natural gas compressor station on the MEG line in order to increase the line's capacity to 1.78 Bcf/d by 2006.



In July 2001, a consortium led by Spain's Cepsa (20 percent) and Algeria's Sonatrach (20 percent) agreed to build a new natural gas pipeline linking Algeria and Europe: Medgaz. The 120-mile Medgaz will link Beni Saf, Algeria to Almeria, Spain, with an eventual extension to France. In September 2002, the consortium completed a study of the line's feasibility, but delays have pushed initial construction on the project to July 2006. The $1.3 billion Medgaz, which should be completed by 2009, will have an initial capacity of 390 Mmcf/d, increasing to a maximum of 1.55 Bcf/d. There are also plans to run a parallel power cable. In November 2002, Cepsa said that it had signed a letter of intent to purchase 35 Bcf/y of natural gas via Medgaz, and in 2004, Iberdrola also agreed to purchase 35 Bcf/y from the line.

In 2002, Sonatrach signed a deal with Italy's Enel and Germany's Wintershall to form Galsi, a consortium to build another natural gas pipeline from Algeria to Italy. Current plans call for an onshore pipeline from Gassi R'Mel to El Kal, Algeria, then an underwater section to Cagliari, Sardinia. This is to be followed by an onshore section to Olbia, Sardinia, then a final, offshore pipeline to C.D. Pescaia, Italy. Galsi estimates initial capacity on the 910-mile line will be 770-990 Mmcf/d, and, as with Medgaz, there are plans for a parallel power cable. The $2 billion project could come on-stream by 2008.

Sonatrach and NNPC, the Nigerian state oil company, formed the Trans-Saharan Natural Gas Consortium (NIGEL) in 2002. The NIGEL consortium aims to construct a 4,550-mile natural gas pipeline from Warri, Nigeria to Hassi R'Mel, via Niger. There are also plans to construct a road and fibre optic cable parallel to the pipeline. The NIGEL pipeline would utilize the proposed Medgaz and existing Transmed pipeline to carry Nigerian gas to European markets. The Nigerian and Algerian governments have sought financial assistance for the $7 billion project from the World Bank and the New Project for Africa's Development (NEPAD).

Liquefied Natural Gas

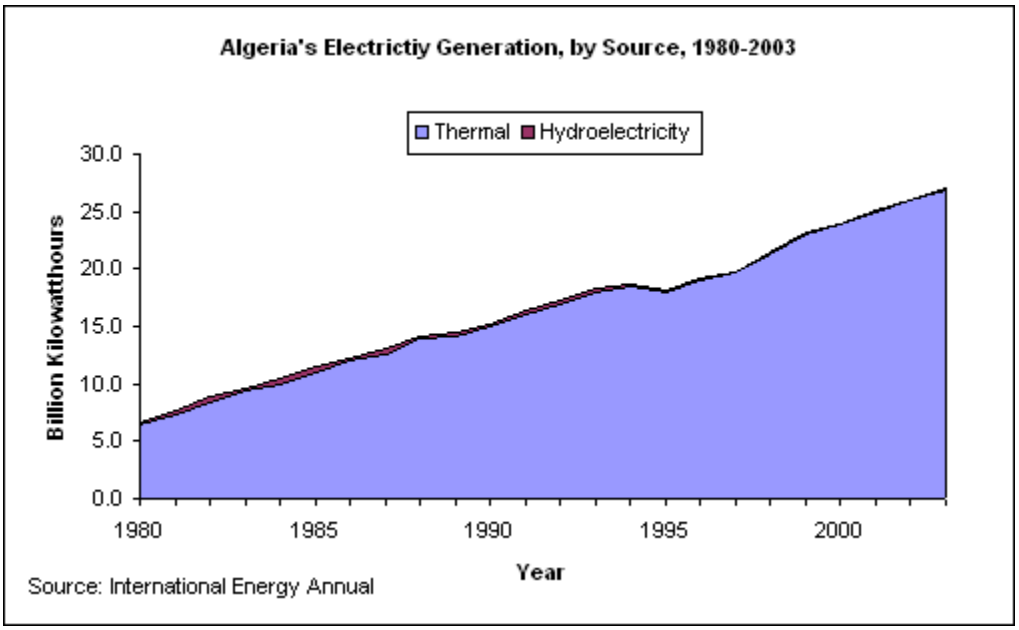
With the start-up of the Arzew GL4Z plant in 1964, Algeria became the world's first producer of liquefied natural gas (LNG). Algeria is the third largest exporter of LNG (behind Indonesia and Malaysia), with around 14 percent of the world's total. Most of Algeria's LNG exports go to Western Europe, especially France and Spain. Sonatrach has LNG export contracts with Gaz de France, Belgium's Distrigaz, Spain's Enagas, Turkey's Botas, Italy's Snam, and Greece's DEPA. During the first ten months of 2005, Algeria exported 1.5 million tons of LNG to the United States, some 15 percent of total U.S. LNG imports during that period. Algeria's largest LNG export terminal is the Arzew facility, whose three facilities produce a combined 17.25 million tons per year (Mty) of LNG (2.47 Bcf/d of re-gasified LNG). Other important terminals include Skikda and Algiers.

On January 19, 2004, a boiler exploded at the Skikda LNG export terminal. The blast killed at least 27 people and shut operations at several adjacent facilities, including a refinery and oil loading terminals. Three of six LNG trains at the Skikda terminal were destroyed, though the other three also suffered some damage. As a result of the accident, LNG production at the Skikda plant declined 76 percent during 2004. Sonatrach completed repairs on the last damaged LNG train in November 2004, and the company decided to replace the three destroyed trains with a single, larger one, upon which construction should finish by mid-2007. Sonatrach stated that, while Algeria's LNG exports would remain at a reduced level through 2007, its overall natural gas exports would remain the same due to expansions of its export pipelines.

Electricity

Increased electricity generation will be required for Algeria to meet domestic electricity demand.

Algeria generated 26.9 billion kilowatthours (Bkwh) of electricity in 2003. Conventional thermal sources, of which natural gas accounted for 99 percent, contributed almost all of Algeria's electricity supply, supplemented by a small amount of hydroelectricity. As of 2003, Algeria had 6.84 gigawatts of installed generating capacity. The country consumed 24.9 Bkwh of electricity in 2003, exporting excess supply to Morocco and Tunisia. Algeria's electricity demand is growing at a rapid rate, and the country will require significant additional capacity in coming years.



Algeria has over 140,000 miles of power lines, serving almost the entire population. There are plans to increase the size of the network by 5 percent in coming years in order to reach isolated

rural communities and hydrocarbon developments in the Sahara Desert. As mentioned above, Algeria does export some electricity to its neighbors, and there are plans to export electricity to Europe. Algeria has proposed undersea power connections to Italy and Spain, likely to run in conjunction with natural gas pipelines. However, Algeria's ability to export electricity in the future will depend upon its ability to build enough generation capacity to meet soaring domestic demand.

State-owned Sonelgaz controls electricity generation, transmission, and distribution in Algeria. A 2002 law converted Sonelgaz into a private company and revoked its monopoly on the power sector, though the Algerian government continues to hold all of the company's shares. The 2002 law also created the Electricity and Gas Regulatory Commission (CREG) to oversee the newly-opened industry and to ensure non-discriminatory access to the sector. Algeria aims to eventually split Sonelgaz into separate generation, transmission, and distribution companies, though those plans have faced domestic opposition from organized labor. Following privatization, Sonalgaz created a joint venture with Sonatrach, the Algerian Energy Company (AEC), in order to pursue partnerships with foreign investors.

In July 2002, Sonatrach and Sonelgaz formed a joint venture, New Energy Algeria (NEAL), to pursue the development of alternative electricity sources, including solar, wind, and biomass. One project reportedly under consideration is a 120-megawatt (MW), hybrid gas/solar power plant near Timimoun. In January 2003, Algeria and the International Energy Agency agreed on technological cooperation in developing solar power. Overall, Algeria hopes to increase the share of solar in the country's electricity mix to 5 percent by 2010.

Natural Gas

Natural gas is the largest source of Algeria's electricity generation. Since the opening of the sector in 2002, there has been considerable private investment in new electricity generating capacity. Algerian law requires that all foreign operators establish joint ventures with AEC, and in return, AEC guarantees that it will purchase all electricity generated by these plants. AEC contracted with Anadarko and General Electric to build the country's first privately-financed, gas-fired power plant at Hassi Berkine. In August 2003, France's Alstom agreed to construct a 300-MW power plant at F'Kirina, some 300 miles east of Algiers. Canada's SNC-Lavalin won a contract in July 2003 to design and build an 825-MW, combined cycle power plant in Skikda, expected to come online in 2006. In 2004, SNC-Lavalin also won a tender to build a 1,200-MW, combined cycle power plant in Tipasa, west of Algiers. In early 2005, Siemens announced that it would build a 500-MW, gas-fired plant in Berrouaghia, which should become operational by the end of 2006.

The need to provide power to desalination plants has driven some of the foreign investment in gas-fired power plants in Algeria. In 2002, U.S.-based Black and Veatch began construction of a facility near the Arzew oil export terminal, with a generating capacity of 310 MW and desalination capacity of 3.1 million cubic feet per day (cf/d); the plant should come online in 2006. In 2004, Japan's Mitsui and U.S.-based Ionics won a tender for a 7.1-million-cf/d desalination plant alongside a 400-MW power plant in Hamma, near Algiers.

Profile

Country Overview

President	Abdelaziz Bouteflika (since April 1999)
Prime Minister	Ahmed Ouyahia (since May 2003)
Location	Northern Africa, bordering the Mediterranean Sea, between Morocco and Tunisia
Independence	5 July 1962 (from France)
Population (2005E)	32,531,853
Languages	Arabic (official), French, Berber dialects
Religion	Sunni Muslim (state religion) 99%, Christian and Jewish 1%
Ethnic Group(s)	Arab-Berber 99%, European less than 1%

Economic Overview

Minister of Commerce	El Hachemi Djaaboub
Currency/Exchange Rate (2/2/06)	Algeria Dinars (DZD) US$1/73.0185 DZD
Inflation Rate (consumer	(2005E):1.7% (2006F): 3.6%

prices)	
Gross Domestic Product (GDP, 2005E)	$96 billion
Real GDP Growth Rate	(2005E): 6.4% (2006F): 6.4%
Unemployment Rate (2005E)	23.2%
External Debt (2005E)	$3.6 billion
Merchandise Exports (2005E)	$39.1 billion
Exports - Commodities	petroleum, natural gas, and petroleum products 97%
Exports - Partners (2004E)	US 22.5%, Italy 17.8%, France 11.8%, Spain 10.2%, Canada 7.8%, Belgium 4.8%
Merchandise Imports (2005E)	$22.2 billion
Imports - Commodities	capital goods, foodstuffs, consumer goods
Imports - Partners (2004E)	France 31.6%, Italy 8.5%, Germany 6.3%, Spain 5.6%, China 5.3%, US 4.9%, Turkey 4.5%
Current Account Balance (2005E)	$15.2 billion

Energy Overview

Minister of Energy	Chekb Khelil
Proven Oil Reserves (January 1, 2006)	11.4 billion barrels
Oil Production (2005E)	2,083.4 thousand barrels per day, of which 65% was crude oil.
Oil Consumption (2005E)	242.4 thousand barrels per day
Net Oil Exports (2005E)	1,841.0 thousand barrels per day
Crude Oil Refining Capacity (2006E)	450 thousand barrels per day
Proven Natural Gas Reserves (January 1, 2006E)	160.5 trillion cubic feet
Natural Gas Production (2003E)	2.9 trillion cubic feet
Natural Gas Consumption (2003E)	0.75 trillion cubic feet
Net Natural Gas Exports (2003E)	2.1 trillion cubic feet
Electricity Installed Capacity (2003E)	6.8 gigawatts
Electricity Production (2003E)	27 billion kilowatt hours
Electricity Consumption (2003E)	24.9 billion kilowatt hours
Total Energy Consumption (2003E)	1.3 quadrillion Btus*, of which Natural Gas (57%), Oil (34%), Coal (2%), Nuclear (0%), Hydroelectricity (0%), Other Renewables (0%)
Total Per Capita Energy Consumption (2003E)	41.9 million Btus
Energy Intensity (2003E)	7,250.7 Btu per $2000-PPP**

Environmental Overview

Energy-Related Carbon Dioxide Emissions (2003E)	84.4 million metric tons, of which Natural Gas (63%), Oil (34%), Coal (4%)

Per-Capita, Energy-Related Carbon Dioxide Emissions (2003E)	2.7 metric tons
Carbon Dioxide Intensity (2003E)	0.5 Metric tons per thousand $2000-PPP**
Environmental Issues	soil erosion from overgrazing and other poor farming practices; desertification; dumping of raw sewage, petroleum refining wastes, and other industrial effluents is leading to the pollution of rivers and coastal waters; Mediterranean Sea, in particular, becoming polluted from oil wastes, soil erosion, and fertilizer runoff; inadequate supplies of potable water
Major Environmental Agreements	party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: none of the selected agreements

Oil and Gas Industry

Organization	Enterprise Nationale pour la Recherche, la Production, le Transport, la transformation et la Commercialisation des Hydrocarbons (Sonatrach) – State-owned company for exploration, transport and marketing of petroleum, natural gas and related products; Enterprise Nationale de Raddinage des Produits Petroliers (Naftec) – Operates and manages all refineries: Enterprise Nationale de Commercialisation et de Distribution des Produits Petroliers (Naftel) – Domestic product distribution. Societe de Conditionnement, Commercialisation & Transport de Gas Industriels (Cogiz) – produces natural gas by-products.
Oil Export Terminals	Arzew (Algeria's largest crude oil export port), Skikda, Algiers, Annaba, Oran , Bejaia, plus the Tunisian facility of La Skhirra.
Selected Foreign Energy Company Involvement	ABB, Amerada Hess, Anadarko, Burlington Resources, BHP Billiton, BP, Cepsa, CNODC, CNPC, Enagas, Endesa, Enel, ENI, Gaz de France, Maersk, Petrobras, Petrofac, Repsol-YPF, Statoil, Talisman, Total, Wintershall, Woodside, YPF
Major Oil Fields	Hassi Messaoud, Hassi Berkine, Ourhound, Hassi R'Mel, Bir Hebaa, Gassi El Agreb/Zotti, Menzel Ledjmet
Major Natural Gas Fields	Hassi R'Mel, Rhourde Nouss, Rourde Nouss Sud-Est, Rhourde Adra, Rhourde Chouff, Rhourde Hamra fields.
LNG Facilities	Arzew GL4Z, Arzew GL1Z, Arzew Gl2Z, Skikda GL1K
Major Refineries (crude refining capacity bbl/d, 2005E)	Naftec-Skikda (300,000), Naftec-Algiers (60,000), Naftec-Jarzew (60,000), Naftec-Hassi Messaoud (30,000)

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

Links

EIA Links

EIA: Country Information on Algeria

U.S. Government

CIA World Factbook
U.S. Commerce Department Country Commercial Guide for Algeria
U.S. State Department Consular Information Sheet on Algeria

Foreign Government Agencies

Algeria and the IMF
Algerian Central Bank
Algerian Finance Ministry
Algerian Ministry of Energy and Mining
Algerian Mission to the UN
Embassy of Algeria in Washington, DC

Non-Governmental Organizations

Arab Net: Algeria
Infoplease: Algeria
News From Algeria

Oil and Natural Gas
Amerada Hess
Anadarko
BHP
British Petroleum
Burlington Resources
Cepsa
CNPC
Kuwait Foreign Petroleum Exploration Company
Naftec
Petroceltic
Repsol-YPF
Sonatrach
Statoil
Talisman Energy

Electricity
Sonelgaz
SNC-Lavalin

Sources

Africa Energy Intelligence
Africa News
Africa Oil and Gas Bulletin
Africa Research Bulletin, AFX.COM
Al- Bawaba
Alexander's Gas & Oil Connections
Algerian Ministry of Energy and Mines
AP Worldstream
APS Review Downstream Trends
APS Review Gas Market Trends
APS Review Oil Market Trends
the Australian
BBC Monitoring
BHP Billiton
Business Wire
California Energy Commission
CIA World Factbook
CWC Africa Energy Alert
Dow Jones International
Economist Intelligence Unit
Energy Compass
Financial Times
INOGATE (European Commission)
International Oil Daily
Middle East Economic Digest (MEED)
Middle East Economic Survey (MEES)
Middle East Executive Reports
Middle East News Online
Natural Gas Week
Oil and Gas Journal
Oil Daily
Petroleum Economist
Petroleum Intelligence Weekly
Platts Oilgram News
Power Engineering International
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